

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1-25 (canceled)

Claim 26 (Previously presented): A test apparatus for testing semiconductor dies, said apparatus comprising:

- a substrate; and

- a plurality of microelectronic probes, each said probe comprising:

- a contact tip disposed to make a temporary, pressure based connection with a terminal of one of said dies during testing of said dies;

- a base secured to said substrate; and

- a body disposed at least in part away from said substrate and configured to flex and exert a counter force while said contact tip is pressed against said terminal of said one of said dies,

- wherein said body is attached to said base and said tip is attached to said body, and said tip comprises substantially a palladium cobalt alloy.

Claim 27-32 (Canceled)

Claim 33 (Previously presented): The test apparatus of claim 26, wherein said tip is integrally formed with said body.

Claim 34 (Canceled)

Claim 35 (Withdrawn): The test apparatus of claim 26, wherein said base and said body are integrally formed.

Claim 36 (Previously presented): The test apparatus of claim 26, wherein said body comprises a beam that is structurally distinct from said base.

Claim 37-40 (Canceled)

Claim 41 (Previously presented): The test apparatus of claim 26, wherein said test apparatus is a probe card assembly.

Claim 42 (Previously presented): A test apparatus for testing a plurality of semiconductor dies, said test apparatus comprising:

a substrate; and

a plurality of microelectronic probes attached to said substrate, each said probe comprising:

a contact tip disposed to make a temporary, pressure based electrical connection with a terminal of one of said dies to be tested, wherein said contact tip comprises substantially a palladium cobalt alloy, and

a spring-like body configured to flex and exert a counter force in response to said contact tip being pressed against said terminal of said one of said dies.

Claims 43-47 (Canceled)

Claim 48 (Previously presented): The test apparatus of claim 42, wherein said test apparatus is a probe card assembly.

Claims 49-72 (Canceled)

Claim 73 (Previously presented): The test apparatus of claim 26, wherein said body and said base are distinct structures.

Claim 74 (Previously presented): The test apparatus of claim 26, wherein said body and said tip are distinct structures.

Claim 75 (Previously presented): The test apparatus of claim 74, wherein said body and said base are distinct structures.

Claim 76 (Previously presented): The test apparatus of claim 26, wherein each probe is configured to contact one of said terminals of said dies such that no two probes contact a same terminal of said dies.

Claim 77 (Previously presented): The test apparatus of claim 76, wherein said base is attached to said body at a first end of said body and said tip is attached to said body at a second end of said body, and said second end of said body is moveable such that said second end of said body deflects upon contact with a terminal of said dies.

Claim 78 (Previously presented): The test apparatus of claim 26, wherein said palladium cobalt alloy is electroplated.

Claim 79 (Previously presented): The test apparatus of claim 42, wherein each said probe further comprises a post attached to a terminal on said substrate, said body connecting said post and said tip.

Claim 80 (Previously presented): The test apparatus of claim 79, wherein said post and said body are distinct structures attached one to another.

Claim 81 (Previously presented): The test apparatus of claim 80, wherein said tip and said body are distinct structures attached to one another.

Claim 82 (Previously presented): The test apparatus of claim 79, wherein said tip and said body are distinct structures attached to one another.

Claim 83 (Previously presented): The test apparatus of claim 79, wherein each probe is configured to contact one of said terminals of said dies such that no two probes contact a same terminal of said dies.

Claim 84 (Previously presented): The test apparatus of claim 79, wherein said post is attached to said body at a first end of said body and said tip is attached to said body at a second end of said body, and said second end of said body is moveable such that said second end of said body deflects upon contact with a terminal of said dies.

Claim 85 (Previously presented): The test apparatus of claim 42, wherein said palladium cobalt alloy is electroplated.

Claim 86 (Canceled)

Claim 87 (Previously presented): The test apparatus of claim 26, wherein said contact tips of said probes are disposed to contact terminals of said dies having a pitch of less than five mils spacing between adjacent ones of said terminals.

Claim 88 (Canceled)

Claim 89 (Previously presented): The test apparatus of claim 26, wherein tips of said probes are disposed to make temporary contact simultaneously with a plurality of terminals of a plurality of said semiconductor dies.

Claim 90 (Previously presented): The test apparatus of claim 89, wherein said plurality of dies compose an unsingulated semiconductor wafer.

Claim 91 (Previously presented): The test apparatus of claim 90, wherein said terminals are bond pads of said semiconductor dies.

Claim 92 (Previously presented): The test apparatus of claim 26, wherein said terminal is flat.

Claim 93 (Canceled)

Claim 94 (Currently amended): ~~A test apparatus for testing an electronic device, said test apparatus comprising:~~

~~a substrate; and~~

~~a plurality of probes attached to said substrate, each said probe comprising:~~

~~a contact tip disposed to make a temporary, pressure based electrical connection with a terminal of said electronic device to be tested, wherein said contact tip comprises substantially palladium or a palladium alloy, and~~

~~a spring like body configured to flex and exert a counter force in response to said contact tip being pressed against said terminal of said electronic device;~~

The test apparatus of claim 42, wherein said contact tips of said probes are disposed to contact terminals of said ~~electronic device~~ dies having a pitch of less than five mils spacing between adjacent ones of said terminals.

Claims 95 and 96 (Canceled)

Claim 97 (Currently amended): The test apparatus of ~~claim 96~~ claim 94, wherein said plurality of dies compose an unsingulated semiconductor wafer.

Claim 98 (Currently amended): The test apparatus of ~~claim 95~~ claim 94, wherein said terminals are bond pads of said semiconductor die.

Claim 99 (Currently amended): ~~A test apparatus for testing an electronic device, said test apparatus comprising:~~

~~a substrate; and~~

~~a plurality of probes attached to said substrate, each said probe comprising:~~

~~a contact tip disposed to make a temporary, pressure based electrical connection with a terminal of said electronic device to be tested, wherein said contact tip comprises substantially palladium or a palladium alloy, and~~

~~a spring like body configured to flex and exert a counter force in response to said contact tip being pressed against said terminal of said electronic device;~~

The test apparatus of claim 42, wherein said terminal is flat.

Claims 100-102 (Canceled)

Claim 103 (Previously presented): The test apparatus of claim 42, wherein said body comprises a spring material that does not comprise a substantial amount of the palladium cobalt alloy.

Claim 104 (Previously presented): The test apparatus of claim 26, wherein said body comprises a spring material that does not comprise a substantial amount of the palladium cobalt alloy.

Claim 105 (New): The test apparatus of claim 26, wherein a first body of a first one of said microelectronic probes overlaps a second body of a second one of said microelectronic probes.

Claim 106 (New): The test apparatus of claim 105, wherein:

said first one of said microelectronic probes comprises a first base and a first contact tip, said first body comprising a first cantilevered beam, said first cantilevered beam attached at one end to said first base, said first contact tip attached to an opposite end of said first cantilevered beam, and

said second one of said microelectronic probes comprises a second base and a second contact tip, said second body comprising a second cantilevered beam, said second cantilevered beam attached at one end to said second base, said second contact tip attached to an opposite end of said second cantilevered beam.

Claim 107 (New): The test apparatus of claim 26, wherein:

said contact tip comprises a base and a truncated pyramid protrusion extending from a surface of said base, and

said contact tip and said base are an integral, single structure.

Claim 108 (New): The test apparatus of claim 42, wherein a first spring-like body of a first one of said probes overlaps a second spring-like body of a second one of said probes.

Claim 109 (New): The test apparatus of claim 108, wherein:

said first spring-like body of said first one of said probes comprises a first base attached to said substrate and a first cantilevered beam extending from said first base, a first contact tip of said first spring-like body located at an end of said beam opposite said first base, and

said second spring-like body of said second one of said probes comprises a second base attached to said substrate and a second cantilevered beam extending from said second base, a second contact tip of said second spring-like body located at an end of said beam opposite said second base.

Claim 110 (New): The test apparatus of claim 42, wherein:

said contact tip comprises a base and a truncated pyramid protrusion extending from a surface of said base, and

said contact tip and said base are an integral, single structure.